Lecture 8: See PPT slides.

We are now done in the PHY layer section of the course.

Next up: Medium Access and Resource Allocation.

Power Control Problems
- power control over independent channels (used in CDMA systems)

A \rightarrow B \rightarrow C \rightarrow D

Under what conditions can a set of links be activated simultaneously?
- Power allocation over parallel channels to maximize the sum-rate multi-user (e.g., in OFDM systems)

Given a fixed power budget, how to split it among multiple channels of different SNR.

- Random Access Mechanisms:
  - ALOHA / slotted ALOHA
    - Analysis of throughput
    - Analysis of the throughput region
  - CSMA
    - p-persistent CSMA
    - Analysis of IEEE 802.11 MAC throughput
Graph coloring & channel allocation in large-scale wireless networks